

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A gas-turbine plant of a power plant, comprising:
a compressor, a combustion chamber, a gas turbine and a cooling air-cooler,
the cooling-air cooler is configured and arranged to receive a flow of compressed
cooling air from the compressor, to cool down the flow of compressed cooling air and
to forward the flow of compressed cooled cooling air to thermally loaded parts of the
gas turbine and/or the combustion chamber, the cooling air-cooler comprising: for a
gas-turbine plant of a power plant, comprising:

 a pressure vessel extending along a longitudinal axis from a first end to a
second end;

 a cooling-air inlet at said first end of said pressure vessel and a cooling-air
outlet at said second end of said pressure vessel, said pressure vessel being
configured and arranged to guide a flow of cooling air from said cooling-air inlet
along said axis through said cooling-air outlet, such that cooling air can enter said
pressure vessel through said cooling-air inlet, flow through said pressure vessel
along said axis as a cooling-air flow and exit said pressure vessel through said
cooling-air outlet;

 within said pressure vessel means for spraying water into the cooling-air flow
that flows through said pressure vessel from said cooling-air inlet to said cooling-air
outlet, whereby said water-spraying means comprise a plurality of nozzles oriented

in parallel to said longitudinal axis such that water is sprayed from said nozzles in the direction of said cooling-air flow;

within said pressure vessel heat exchanging means which are arranged in said cooling-air flow; and

within said pressure vessel a water separator arranged in said cooling-air flow between said water-spraying means and said cooling-air outlet.

2. (Currently Amended) The ~~cooling-air cooler~~ gas-turbine plant as claimed in claim 1, wherein said water spraying means are arranged directly downstream of the cooling-air inlet,

said water separator is arranged directly upstream of the cooling-air outlet, and

said heat exchanging means are arranged between said water spraying means and the water separator.

3. (Currently Amended) The ~~cooling-air cooler~~ gas-turbine plant as claimed in claim 1, wherein said heat exchanging means comprise a plurality of spiral tubes through which water or steam flows and which extend in the form of spirals along said longitudinal axis.

Claims 4-6 (Withdrawn).

7. (Currently Amended) The ~~cooling-air cooler~~ gas-turbine plant as claimed in claim 1, wherein said cooling air flows from said pressure vessel is configured and

arranged to flow said cooling air flow from said cooling-air inlet to said cooling-air outlet in a single pass, and

the heat exchanging means are configured and arranged to flow through a fluid in counter flow with regard to said cooling-air flow a fluid flows through said heat exchanging means in counterflow with regard to said cooling air flow.

Claims 8-16 (Withdrawn).

17. (Currently Amended) A gas-turbine plant of a power plant, comprising: a compressor, a combustion chamber, a gas turbine and a cooling air-cooler, the cooling-air cooler is configured and arranged to receive a flow of compressed cooling air from the compressor, to cool down the flow of compressed cooling air and to forward the flow of compressed cooled cooling air to thermally loaded parts of the gas turbine and/or the combustion chamber, the cooling air-cooler comprising A cooling air cooler for a gas turbine plant of a power plant, comprising:

a pressure vessel having a cooling air inlet and a cooling air outlet through which cooling air flows;

means for spraying water into the cooling air flow, said water spraying means being disposed in said pressure vessel, and comprising a plurality of nozzles oriented in parallel to said cooling-air flow such that water is sprayed from said nozzles in the direction of said cooling-air flow;

heat exchanging means disposed in the pressure vessel; and

a water separator disposed downstream of the flow from said water spraying means.